Defining proximal soil sensing
(a presentation to encourage discussion)

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Motivation
To figure out what’s missing and where we should be heading

What exactly is proximal soil sensing (PSS)?
We think that it is important to reconsider this question so that this dynamic new discipline develops widely and rapidly.

Modalities

Proximal v Remote

In situ v Ex situ

Non-invasive v Invasive

Passive v Active
Proximal soil sensing, sensu stricto In the narrow sense one could define PSS as **in-situ, mobile, field methods** or more widely **in-situ and ex-situ, mobile, field methods**.

Proximal soil sensing, sensu lato More widely one could define PSS as **in-situ and ex-situ, mobile and stationary field methods**.

Conclusions

1. Proximal soil sensing can be defined by a set of modalities. The list given here is not exhaustive.

DISCUSSION Are there any others?
Conclusions

2 Using these modalities a narrow definition of PSS is a set of in-situ and ex-situ, mobile, field soil measurement methods.

DISCUSSION Too narrow?

Conclusions

3 A wider definition of PSS includes in-situ and ex-situ, mobile and stationary field methods. The wider definition perhaps gives more scope for the development of PSS methods and cross-fertilisation between modalities.

DISCUSSION Too wide or not wide enough?

Conclusions

4 We question whether laboratory-based methods constitute PSS. Nevertheless, understanding laboratory NIR and MIR will inform their improved use in the field.

DISCUSSION What do others think?

Conclusions

5 A cost-effective proximal sensing modality that allows repeated high-resolution soil measurement over time and space appears to be one of the major development challenges.

DISCUSSION Possible?

Multi-Sensor Platform

The future for PA offers automation, miniaturisation and continuous operation.